APPENDIX G

STATISTICS FORMULAS

Statistics Formulas

1. Mean

$$\overline{X} = \frac{\sum X}{N}$$

when $\overline{X}$ = mean

ΣX = sum of all data values

N = number of data items in sample

2. t-test for Dependent sample

$$T = \frac{\sum D}{\sqrt{\dfrac{n\sum D^2 - (\sum D)^2}{n-1}}}$$

when df = n-1

D = differences between scores of each pair

N = the number of pairs

3. F-test (One Way ANOVA)

$$F = \frac{MS_b}{MS_w}$$

4. Least - Significant Different (LSD)

$$LSD = t1_{-\infty/2}\sqrt{MS_E}\sqrt{\frac{1}{n_i} + \frac{1}{n_j}}$$

5. Index of Item Objective Congruence (IOC)

$$IOC = \frac{\sum R}{N}$$

when   IOC   = index of congruence with test and goal

$\sum$R   = total scores of experts

N   = numbers of expert

6. SPSS version 10.1